REMARKS

Claims 1-51 were pending in the present application. Claims 2 and 29 have been cancelled without prejudice. Claims 1, 7, and 28 have been amended to clarify claimed subject matter and/or correct informalities. No new matter has been introduced by these amendments.

Applicant has amended the Specification to include detailed descriptions of the figures that were originally filed with the application. The amended specification includes detailed descriptions for Figures 3-8. Support for the descriptions may be found in the original Specification at least at [0014], [0015], [0016], [0038], [0039], [0040], [0041], [0044], [0045], Appendix pages 54-56, 79-80, 126-129, and Figures 3-8. Again, no new matter has been introduced.

Claims 1, 3-28, and 30-51 are for consideration upon entry of the present Amendment. Applicant requests favorable consideration of this response and allowance of the subject application based on the following remarks.

According to MPEP §2141.02 ("as a whole" inquiry), applicants who allege they discovered the source of a problem must provide evidence substantiating the allegation, either by way of affidavits or declarations, or by way of a clear and persuasive assertion in the specification. Applicant has discovered the source of a problem with respect to creating an enhanced execution environment for runtime hosting to provide integration with other cross-platform frameworks (Specification at page 1, para. [0003] and page 2, para. [0007]). The cause of the problem is that a host application has little or no control over many of the services provided by a runtime (Specification at page 2, para. [0005]). In particular, the host applications' expected performance may be incompatible with corresponding runtime

services (Specification at page 2, para. [0006]). Applicant has discovered a solution for the problem, which is an enhanced execution environment by increasing execution environment control between the host application and the runtime (Specification at page 2, para. [0007]). As provided by MPEP §2141.02, the pending claims should be viewed as a whole in light of this information.

Interview

Applicant tried to contact the Office for interviews on multiple occasions but was unsuccessful in reaching the Examiner. Applicant left telephone messages and sent an email. The Examiner sent a reply email that Applicant's telephone numbers were not working properly. Applicant called Examiner again and left another message, but did not hear back from the Examiner. Due to the time constraint, Applicant is filing a response based on the Office Action comments.

Double Patenting

Claims 28-51 are provisionally rejected under 35 U.S.C. §101 as claiming the same invention as that of Claim 1 of copending Application No. 10/405,560 (hereinafter "Lui'560"). Applicant has amended independent Claim 28 to recite features similar to Claims 1, 2, and 29. Thus, Claim 29 is cancelled. Claims 30-51 depend directly from Claim 28 and thus are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features that, in combination with those recited in Claim 28, this rejection is now moot.

Claim Rejections 35 U.S.C. §112

Claims 1-27 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 has been canceled so this rejection is now moot.

Applicant has amended Claims 1 and 7 as requested by the Office. As claims 3-27 depend directly from Claim 1 and thus are allowable as depending from an allowable base claim. Applicant respectfully submits that Claims 1, and 3-27 now comply with 35 U.S.C. §112, second paragraph and as a result the rejection is now moot.

Claim Rejections 35 U.S.C. §102

A.   Claims 1, 3-6, 8, 10, 15, 16, 25-27 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Publication No. 20040158589 A1 to Liang et al. (hereinafter "Liang") (*Office Action* p. 4).

B.   Claim 28 is rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Publication No. 20030033443 A1 to Igotti (*Office Action* p. 7). Applicant respectfully traverses this rejection. Anticipation under §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference (MPEP §2131).

A.   Independent Claim 1 has been amended to recite features along the lines of dependent Claim 2. Accordingly, Claim 2 has been canceled, thereby rendering moot the rejection of that claim. Claim 1 recites:

> *A computer readable medium comprising computer-program*
> *instructions executable by a processor and implementing instructions for:*
> *a runtime hosting interface comprising a host abstraction interface*
> *(HAI), the HAI corresponding to execution environment abstraction(s)*

supported by a host application, at least one specific interface or object corresponding to a specific HAI accessible by a runtime during execution of runtime managed code and responsive to an action or event associated with an identified HAI, the HAI providing an interface for the runtime to configure host execution environment parameters and/or to notify the host application of a runtime event; and

the HAI providing a pointer interface for the runtime with a pointer to an object associated with the pointer interface, the object for calling by the runtime responsive to a specified event or criteria.

Liang does not disclose expressly or inherently "*a runtime hosting interface comprising a host abstraction interface (HAI), the HAI corresponding to execution environment abstraction(s) supported by a host application, at least one specific interface or object corresponding to a specific HAI accessible by a runtime during execution of runtime managed code and responsive to an action or event associated with an identified HAI, the HAI providing an interface for the runtime to configure host execution environment parameters and/or to notify the host application of a runtime event HAI providing a pointer interface for the runtime with a pointer to an object associated with the pointer interface, the object for calling by the runtime responsive to a specified event or criteria*", as recited in Claim 1. Rather, Liang describes a profiling interface that accommodates memory allocation and garbage collection methods (Liang, Abstract). Furthermore, Liang describes profile interfaces between a virtual machine and a front-end of a profiler (Liang, para. [0021]) executed by a processor (Liang, para. [0086]), not runtime hosting interfaces comprising a host abstraction interface. This evidence is insufficient to support a prima facie anticipation rejection of the claimed subject matter.

Consequently, Applicant respectfully submits that Claim 1 is not anticipated by Liang and requests that the §102 rejection be withdrawn.

Dependent Claims 3-6, 8, 10, 15, 16, and 25-27 depend directly or indirectly from Claim 1 and thus are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features that, in combination with those recited in Claim 1, are not disclosed by Liang.

B. **Independent Claim 28** has been amended to recite features similar to those in Claims 1 and 2 and hence benefits from the same arguments directed above to Claim 1.

> *A computing device for enhanced runtime hosting, the computing device comprising:*
> *means for identifying, by a runtime one or more execution environment abstractions implemented by a host application, the host application for hosting the runtime;*
> *during execution of runtime managed code and responsive to an action or event associated with an identified one of the respective execution environment abstractions, means for the runtime to interface with specific ones of the execution environment abstractions;*
> *means for the HAI providing an interface for the runtime to configure host execution environment parameters and/or to notify the host application of a runtime event;*
> *means for the HAI providing a pointer interface for the runtime with a pointer to an object associated with the pointer interface, the object for calling by the runtime responsive to a specified event or criteria; and*
> *wherein the execution environment abstractions correspond to memory management, threads/tasks, I/O completion, synchronization, runtime entry/exit notification, security context, impersonation, runtime configuration, executable service code abstractions, and/or garbage collection (GC).*

Applicant asserts Igotti fails to anticipate independent Claim 28 because Igotti does not disclose "runtime hosting interface comprising a host abstraction interface..... abstractions, and/or garbage collections", as recited in Claim 28. Rather, Igotti describes interfaces with a virtual machine that may be removed from the runtime environment in the host application (Igotti, para. [0016]). Igotti contains host application independent information (Igotti, para. [0016]). This evidence is insufficient to support a prima facie

anticipation rejection of the claimed subject matter. Accordingly, Applicant requests that the §102 rejections be withdrawn.

Claim Rejections 35 U.S.C. §103

A.   Claims 2, 23, and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20040158589 A1 to Liang et al. (hereinafter "Liang") in view of U.S. Patent No. 6,816,956 B1 to Benayon et al. (hereinafter "Benayon").

B.   Claim 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Liang et al. (hereinafter "Liang") in view of view of U.S. Publication No. 20030056076 A1 to Cook et al. (hereinafter "Cook").

C.   Claims 9 and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20040158589 A1 to Liang et al. (hereinafter "Liang") in view of U.S. Patent No. 7,007,269 B2 to Sluiman et al. (hereinafter "Sluiman").

D.   Claim 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20040158589 A1 to Liang et al. (hereinafter "Liang") in view of U.S. Patent No. 6,915,457 B1 to Miller (hereinafter "Miller").

E.   Claims 12 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20040158589 A1 to Liang et al. (hereinafter "Liang") in view of U.S. Patent No. 6,457,142 B1 to Klemm et al. (hereinafter "Klemm").

F.   Claim 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20040158589 A1 to Liang et al. (hereinafter "Liang") in view of U.S. Publication No. 20030167421 A1 to Klemm et al. (hereinafter "Klemm 421").

G.   Claims 17-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20040158589 A1 to Liang et al. (hereinafter "Liang") in view of U.S. Patent No. 5,909,580 to Crelier et al. (hereinafter "Crelier").

H.   Claim 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20040158589 A1 to Liang et al. (hereinafter "Liang") in view of U.S. Publication No. 20030093433 A1 to Seaman et al. (hereinafter "Seaman).

I.   Claims 29-34, 36, 41, 50, and 51 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20030033443 A1 to Igotti (hereinafter "Igotti") in view of U.S. Publication No. 20040158589 A1 to Liang et al. (hereinafter "Liang").

J.   Claim 33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20030033443 A1 to Igotti (hereinafter "Igotti") in view of U.S. Publication No. 20030056076 A1 to Cook et al. (hereinafter "Cook").

K.   Claims 35 and 39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20030033443 A1 to Igotti (hereinafter "Igotti") in view of U.S. Patent No. 7,007,269 B2 to Sluiman et al. (hereinafter "Sluiman").

L.   Claim 37 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20030033443 A1 to Igotti (hereinafter "Igotti") in view of U.S. Patent No. 6,915,457 B1 to Miller (hereinafter "Miller").

M.   Claims 38 and 46 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20030033443 A1 to Igotti (hereinafter "Igotti") in view of U.S. Patent No. 6,457,142 B1 to Klemm et al. (hereinafter "Klemm").

N.   Claim 40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20030033443 A1 to Igotti (hereinafter "Igotti") in view of U.S. Publication No. 20030167421 A1 to Klemm et al. (hereinafter "Klemm 421").

O.   Claims 42-45 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20030033443 A1 to Igotti (hereinafter "Igotti") in view of U.S. Patent No. 5,909,580 to Crelier et al. (hereinafter "Crelier").

P.   Claim 47 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20030033443 A1 to Igotti (hereinafter "Igotti") in view of U.S. Publication No. 20030093433 A1 to Seaman et al. (hereinafter "Seaman").

Q.   Claims 48 and 49 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 20030033443 A1 to Igotti (hereinafter "Igotti") in view of U.S. Patent No. 6,816,956 B1 to Benayon et al. (hereinafter "Benayon").

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations (see, MPEP §2142).

Applicant submits that all of the criteria set forth for making a *prima facie* case have not been met by the Office. All of the §103(a) rejections rely on Liang or Igotti as the primary reference. As explained above with respect to the rejection under 35 U.S.C. §102(e), Applicant submits that Liang does not disclose "runtime hosting interface comprising a host abstraction interface corresponding to execution environment

abstractions". Also explained with respect to the rejection under 35 U.S.C. §102(e),
Applicant submits that Igotti does not disclose "execution environment abstractions
correspond to memory management, threats/tasks, input output completion, synchronization,
runtime, entry/exit notification, security context, impersonation, runtime configuration,
executable service code abstractions, and/or garbage collections". Applicant asserts that the
Office has failed to present references which describe the recited features. As Liang or Igotti
do not disclose or teach or suggest all the claim limitations, alone or in combination with the
other cited references, Applicant submits that **Claims 7, 9, 11-14, 17-24, and 30-51** are
allowable over the pending obviousness rejections.

　　In addition, the Office has failed to establish a motivation sufficient for one of
ordinary skill in the art to combine the references. The motivation provided by the Office
"to improve the system" is very general because it could cover almost any alteration
contemplated of Liang and/or Igotti. Additionally, there is nothing in the references that
would suggest improving the system with a runtime hosting environment comprising
runtime hosting interfaces and host abstraction interfaces. Finally, although Igotti describes
application programming interfaces, there is no suggestion in the evidence of record (other
than Applicant's disclosure) to employ the host abstraction interface to provide an interface
for the runtime to configure host execution environment parameters and/or notify the host
application of a runtime event. Instead, Igotti teaches away from the claimed subject matter
as the virtual machine may be removed from the runtime environment in the host
application. This rejection is improper.

　　Furthermore, there is no teaching or suggestion by Liang to modify profiling of
garbage-collected memory systems or by Igotti to modify integrating a virtual machine into a

generic application. The Office cannot improperly rely on hindsight by locating references without evidence of motivation to propose the suggested combination.

Conclusion

The pending Claims 1, 3-28, and 30-51 are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of the subject application. If any issues remain unresolved that would prevent allowance of this case, the Examiner is requested to contact the undersigned attorney to resolve the issue.

Respectfully Submitted,
Lee & Hayes, PLLC
421 W. Riverside Avenue, Suite 500
Spokane, WA 99201

Dated: September 14, 2006   By: /Shirley L. Anderson/
Shirley L. Anderson
Reg. No. 57,763
(509) 324-9256